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PATENT ABSTRACTS OF JAPAN

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(71)Applicant : FUJIKURA LTD

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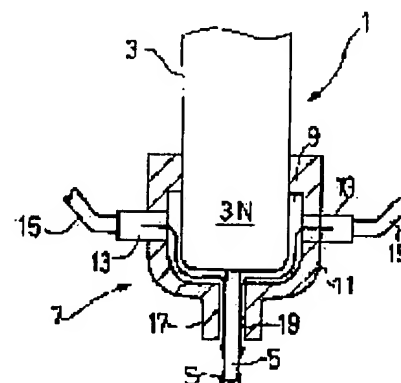
(72)Inventor : YOSHIDA HIDEKI

(54) LIQUID DRIP PREVENTIVE DEVICE FOR DISPENSER

(57)Abstract:

PURPOSE: To provide a liquid drip preventive device for a dispenser in which liquid drip from the tip of a needle is not caused and also liquid is quantified and further the deformation factor of the needle is removed.

CONSTITUTION: A dispenser 1 has a needle 5 protruded from a dispenser body 3 housed with liquid. Outside a dispenser body part 3N on the needle 5 side, a cover 11 is put leaving space from the part 3N and the cover 11 is provided with air feeding ports 13, and also air blow-off ports 19 are provided on the outer periphery of the needle 5.



LEGAL STATUS

[Date of request for examination]

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[Patent number]

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CLAIMS

[Claim(s)]

[Claim 1] the liquid of the dispenser which prepares an air blasting mouth in the circumference of an outside of the aforementioned needle, and is characterized by the bird clapper while being the dispenser which projects and comes to prepare a needle in the dispenser main part which held the liquid, making a crevice form in the outside for a dispenser book soma by the side of the aforementioned needle, covering covering and preparing an air feed hopper in this covering -- whom -- an arrester

[Claim 2] projection of the aforementioned needle -- the liquid of the dispenser according to claim 1 which prepares the guide member united with the aforementioned covering by the periphery the bottom, and is characterized by the bird clapper -- whom -- an arrester

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] the liquid of a dispenser which this invention can breathe out a liquid from a needle and is closed -- whom -- it is related with an arrester

[0002]

[Description of the Prior Art] The polyethylene PET frame which a narrow, for example, an about 46-micrometer line, pastes up very much for manufacturing the conventional, for example, hard disk, driver (HDD) is used. In order to paste up a narrow line on this polyethylene PET frame, the dispenser is used as an adhesives application means. As this dispenser 101, it is equipped with the upper limit of the needle 105 as a liquid projected downward in the lower part of this dispenser main part 103 by having the dispenser main part (barrel) 103 which held ultraviolet-rays hardening resin as shown in drawing 3.

[0003] Therefore, the ultraviolet-rays hardening resin held in the dispenser main part 103 is projected from the nose of cam of a needle 105 by the air means, and a narrow line is applied to a polyethylene PET frame. if ultraviolet-rays hardening resin is breathed out from the nose of cam of this needle 105 -- the point of a needle 105 -- liquid -- whom -- S may arise

[0004] this liquid -- the work whose operator wipes off the nose of cam of a needle 105 by cloth, sponge, etc. is done after the regurgitation of ultraviolet-rays hardening resin as preventive measures which make generating of who S prevent

[0005]

[Problem(s) to be Solved by the Invention] by the way, the conventional liquid mentioned above -- whom -- in order that preventive measures may press a needle 105 against cloth, sponge, etc., a needle 105 deforms them or they have the fault of dust adhering to a needle 105 and dust adhering to a product You have to experiment and determine about the exchange stage of cloth and sponge.

[0006] Moreover, in order to contact cloth, sponge, etc. to the point (liquid regurgitation section) of a needle 105, it sucks up to the required ultraviolet-rays hardening resin in the point of a needle 105, and there is a problem that discharge quantity is not stabilized.

[0007] the purpose of this invention -- the nose of cam of a needle -- liquid -- the liquid of the dispenser which attains quantification of a liquid while making it not make whom generated, and deleted the deformation factor of a needle further -- whom -- it is in offering an arrester

[0008]

[Means for Solving the Problem] the liquid of the dispenser of invention according to a claim 1 in order to attain the above-mentioned purpose -- whom -- an arrester is the dispenser which projects and comes to prepare a needle in the dispenser main part which held the liquid, prepares an air diffuser in the circumference of the aforementioned needle of an outside, and is characterized by the bird clapper while it makes a crevice form in the outside for a dispenser book soma by the side of the aforementioned needle, covers covering and prepares an air feed hopper in this covering

[0009] the dispenser liquid of invention by the claim 2 -- whom -- an arrester -- the protrusion of the aforementioned needle -- the guide member united with the aforementioned covering by the periphery the bottom is prepared, and it is characterized by the bird clapper

[0010]

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[Function] the liquid of the dispenser of invention by the above claims 1 -- whom -- if air is supplied from the air feed hopper of covering which covered the dispenser main part by the side of a needle by considering as an arrester, air will be injected from the air diffuser prepared in the circumference of an outside of a needle through the crevice formed between a dispenser main part and covering, and will be sprayed at the nose of cam of a needle consequently, the liquid produced at the nose of cam of a needle -- blowing away whom -- liquid -- who is prevented

[0011] moreover, the liquid of the dispenser of invention by the claim 2 -- whom -- considering as an arrester -- the protrusion of a needle -- since the guide member united with the aforementioned covering is prepared in the periphery the bottom, deformation of a needle is prevented

[0012]

[Example] Hereafter, the example of this invention is explained in detail based on a drawing.

[0013] With reference to drawing 1 and drawing 2, as for the dispenser 1, it is equipped with the upper limit of the needle 5 as a liquid projected below in the lower part of this dispenser main part 3 by having the dispenser main part (barrel) 3 which held ultraviolet-rays hardening resin. Therefore, the ultraviolet-rays hardening resin held in the dispenser main part 3 is breathed out from the nose of cam of a needle 5. Ultraviolet-rays hardening resin will be breathed out from the nose of cam of this needle 5, for example, an about 46-micrometer narrow line will paste up on a polyethylene pet frame. this time -- the point of a needle 5 -- liquid -- who S may arise

[0014] this liquid -- the liquid which prevents who S -- whom -- the covering 11 to which the crevice 9 was made to form in the outside in 3 Ns of portions of the dispenser main part 3 by the side of the aforementioned needle 5 as an arrester 7 is covered Two or more air feed hoppers 13 are formed in a part of this covering 11. While the end of piping 15 is connected to each of this air feed hopper 13, the source of air of an illustration ellipsis is connected to the other end of piping 15.

[0015] the protrusion of the aforementioned needle 5 -- the guide of the shape of a hollow cylinder united with the aforementioned covering 11 by the periphery the bottom -- a member 17 prepares -- having -- **** -- this guide -- the air diffuser 19 is formed between the member 17 and the needle 5

[0016] The crevice 9 where the air from the source of air of an illustration ellipsis was formed between the dispenser main part 3 and covering 11 from the air feed hopper 13 through piping 15 of the above-mentioned composition is supplied. the air supplied to this crevice 9 -- further -- a guide -- air blows off from a member 17, a needle 5, and the air diffuser 19 formed in between towards a lower part

[0017] consequently, the liquid which exists at the nose of cam of a needle 5 -- whom -- S blows away by air -- having -- non-contact -- the nose of cam of a needle 5 -- liquid -- whom -- it can prevent that S occurs Moreover, what is necessary is just to perform blasting of air intensively by supplying the necessary minimum amount of air to the aforementioned crevice 9, in order to spray air at the nose of cam of a needle 5.

[0018] this liquid -- if discharge quantity of the ultraviolet-rays hardening resin as a liquid can be quantified when who S is lost -- both -- liquid -- whom -- there is no property change of the liquid by S, and quality stability can be performed furthermore, liquid -- whom -- when S is lost, scattering of the liquid at the time of needle 5 movement is lost The wiping work of a needle 5 is lost and dust etc. stops and adhering to a product.

[0019] the protrusion of a needle 5 -- the guide united with the covering 11 of a periphery the bottom -- having formed the member 17 -- this guide -- since a member 17 guides a needle 5, deformation of a needle 5 can be prevented

[0020] In addition, this invention can be carried out in other modes by making a proper change, without being limited to the example mentioned above. Although the example which formed two air feed hoppers 13 explained in this example, you may be one piece or three pieces or more. moreover, the aforementioned crevice 9 -- liquid -- whom -- what is necessary is just the crevice which accumulates temporarily the necessary minimum amount of air which prevents S

[0021]

[Effect of the Invention] more than -- the time -- the liquid of an example which is produced at the nose of cam of a needle according to invention by the claim 1 so that I may be understood from explanation -- whose generating can be prevented this liquid -- when who dies, while being able to quantify discharge quantity of a liquid -- liquid -- there is no property change of the liquid by whom, and quality stability can be performed further -- liquid -- when who dies, scattering of the liquid at the time of needle movement is lost The wiping work of a needle is lost and dust etc. stops and adhering to a product.

[0022]

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TECHNICAL FIELD

[Industrial Application] the liquid of a dispenser which this invention can breathe out a liquid from a needle and is closed -- whom -- it is related with an arrester

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PRIOR ART

[Description of the Prior Art] The polyethylene PET frame which a narrow, for example, an about 46-micrometer line, pastes up very much for manufacturing the conventional, for example, hard disk, driver (HDD) is used. In order to paste up a narrow line on this polyethylene PET frame, the dispenser is used as an adhesives application means. As this dispenser 101, it is equipped with the upper limit of the needle 105 as a liquid projected downward in the lower part of this dispenser main part 103 by having the dispenser main part (barrel) 103 which held ultraviolet-rays hardening resin as shown in drawing 3.

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EFFECT OF THE INVENTION

[Effect of the Invention] more than -- the time -- the liquid of an example which is produced at the nose of cam of a needle according to invention by the claim 1 so that I may be understood from explanation -- whose generating can be prevented this liquid -- when who dies, while being able to quantify discharge quantity of a liquid -- liquid -- there is no property change of the liquid by whom, and quality stability can be performed further -- liquid -- when who dies, scattering of the liquid at the time of needle movement is lost The wiping work of a needle is lost and dust etc. stops and adhering to a product.

[0022] Since a guide member guides a needle according to invention by the claim 2, deformation of a needle can be prevented.

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TECHNICAL PROBLEM

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[0007] the purpose of this invention -- the nose of cam of a needle -- liquid -- the liquid of the dispenser which attains quantification of a liquid while making it not make whom generated, and deleted the deformation factor of a needle further -- whom -- it is in offering an arrester

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MEANS

[Means for Solving the Problem] the liquid of the dispenser of invention according to a claim 1 in order to attain the above-mentioned purpose -- whom -- an arrester is the dispenser which projects and comes to prepare a needle in the dispenser main part which held the liquid, prepares an air diffuser in the circumference of the aforementioned needle of an outside, and is characterized by the bird clapper while it makes a crevice form in the outside for a dispenser book soma by the side of the aforementioned needle, covers covering and prepares an air feed hopper in this covering [0009] the dispenser liquid of invention by the claim 2 -- whom -- an arrester -- projection of the aforementioned needle -- the guide member united with the aforementioned covering by the periphery the bottom is prepared, and it is characterized by the bird clapper

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OPERATION

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EXAMPLE

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] the liquid of the dispenser of one example which carries out this invention -- whom -- it is the front view of an arrester

[Drawing 2] It is the cross section which met the II-II line in drawing 1 .

[Drawing 3] It is the front view of the conventional dispenser.

[Description of Notations]

1 Dispenser

3 Dispenser Main Part

5 Needle

7 Liquid -- who Arrester

9 Spare Time

11 Covering

13 Air Feed Hopper

17 Guide -- Member

19 Air Exit Cone

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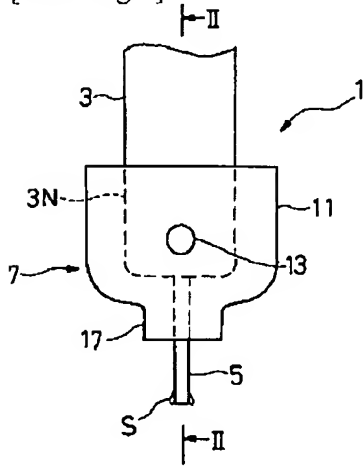
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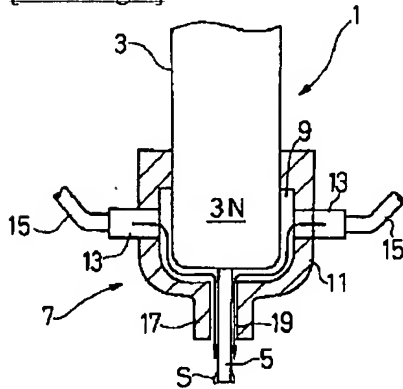
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DRAWINGS

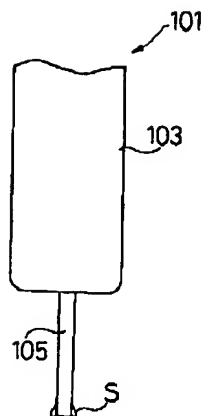
[Drawing 1]



[Drawing 2]



[Drawing 3]



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(22) 出願日 平成 6 年 (1994) 12 月 28 日

(71) 出願人 000005186

株式会社フジクラ

東京都江東区木場 1 丁目 5 番 1 号

(72) 発明者 吉田 秀喜

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クラ佐倉工場内

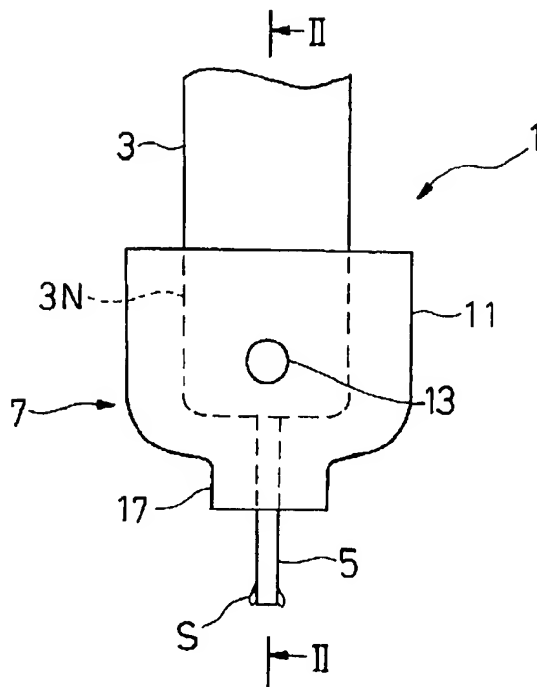
(74) 代理人 弁理士 三好 秀和 (外 3 名)

(54) 【発明の名称】 ディスペンサの液だれ防止装置

(57) 【要約】

【目的】 ニードルの先端に液だれを生じさせないようにすると共に液体の定量化を図り、さらにニードルの変形要因を削除するようにしたディスペンサの液だれ防止装置を提供することにある。

【構成】 液体を収容したディスペンサ本体 3 にニードル 5 を突出して設けてなるディスペンサ 1 であって、前記ニードル 5 側のディスペンサ本体部分 3 N の外側に任意の隙間 9 を形成せしめてカバー 1 1 を被い、このカバー 1 1 にエア供給口 1 3 を設けると共に前記ニードル 5 の外側周囲にエア吹き出し口 1 9 を設けてなることを特徴とする。



【特許請求の範囲】

【請求項1】 液体を収容したディスペンサ本体にニードルを突出して設けてなるディスペンサであって、前記ニードル側のディスペンサ本体部分の外側に隙間を形成せしめてカバーを被い、このカバーにエア供給口を設けると共に前記ニードルの外側周囲にエア吹き付け口を設けてなることを特徴とするディスペンサの液だれ防止装置。

【請求項2】 前記ニードルの突出した外周に前記カバーと一体化されたガイド部材を設けてなることを特徴とする請求項1記載のディスペンサの液だれ防止装置。

【発明の詳細な説明】

【0001】

【産業上の利用分野】 この発明は、液体をニードルから吐出せしめるディスペンサの液だれ防止装置に関する。

【0002】

【従来の技術】 従来、例えばハードディスクドライブ(HDD)を製造するには非常に細い例えば46μm程度の線が接着されるポリエチレンPETフレームが使用されている。このポリエチレンPETフレームに細い線を接着する為に、接着剤塗布手段としてディスペンサが用いられている。このディスペンサ101としては、図3に示されているように、液体としての例えば紫外線硬化樹脂を収容したディスペンサ本体(バレル)103を備えており、このディスペンサ本体103の下部には下方向へ突出したニードル105の上端が装着されている。

【0003】 したがって、ディスペンサ本体103内に収容されている紫外線硬化樹脂はエア手段によりニードル105の先端から突出されてポリエチレンPETフレームに細い線が塗布される。このニードル105の先端から紫外線硬化樹脂が吐出されると、ニードル105の先端部に液だれSが生じることがある。

【0004】 この液だれSの発生を防止せしめる防止対策として、紫外線硬化樹脂の吐出後、ニードル105の先端を布、スポンジなどで作業者が拭き取る作業を行っている。

【0005】

【発明が解決しようとする課題】 ところで、上述した従来の液だれ防止対策は、ニードル105を布、スポンジなどに押し当てるため、ニードル105が変形したり、ニードル105にゴミが付着しゴミが製品に付着するなどの欠点がある。布、スポンジの交換時期について実験を行ない決定しなければならない。

【0006】 また、ニードル105の先端部(液体吐出部)に布、スポンジなどを接触させるため、ニードル105の先端部にある必要な紫外線硬化樹脂までも吸取ってしまい吐出量が安定しないという問題がある。

【0007】 この発明の目的は、ニードルの先端に液だれを生じさせないようにすると共に液体の定量化を図

り、さらにニードルの変形要因を削除するようにしたディスペンサの液だれ防止装置を提供することにある。

【0008】

【課題を解決するための手段】 上記目的を達成するために請求項1による発明のディスペンサの液だれ防止装置は、液体を収容したディスペンサ本体にニードルを突出して設けてなるディスペンサであって、前記ニードル側のディスペンサ本体部分の外側に隙間を形成せしめてカバーを被い、このカバーにエア供給口を設けると共に前記ニードルの外側周囲にエア吹き出し口を設けてなることを特徴とするものである。

【0009】 請求項2による発明のディスペンサ液だれ防止装置は、前記ニードルの突出した外周に前記カバーと一体化されたガイド部材を設けてなることを特徴とするものである。

【0010】

【作用】 以上のような請求項1による発明のディスペンサの液だれ防止装置とすることにより、ニードル側のディスペンサ本体を被ったカバーのエア供給口からエアを供給すると、エアがディスペンサ本体とカバーとの間に形成された隙間を通してニードルの外側周囲に設けたエア吹き出し口から噴射されてニードルの先端に吹き付けられる。その結果、ニードルの先端に生じる液だれを吹き飛ばすことにより、液だれが防止される。

【0011】 また、請求項2による発明のディスペンサの液だれ防止装置とすることにより、ニードルの突出した外周に前記カバーと一体化されたガイド部材が設けられているから、ニードルの変形が防止される。

【0012】

【実施例】 以下、この発明の実施例を図面に基いて詳細に説明する。

【0013】 図1および図2を参照するに、ディスペンサ1は液体としての例えば紫外線硬化樹脂を収容したディスペンサ本体(バレル)3を備えており、このディスペンサ本体3の下部には下方へ突出したニードル5の上端が装着されている。したがって、ディスペンサ本体3内に収容されている紫外線硬化樹脂はニードル5の先端から吐出される。このニードル5の先端から紫外線硬化樹脂が吐出されて例えばポリエチレンベットフレーム上に46μm程度の細い線が接着されることになる。このときに、ニードル5の先端部には液だれSが生じることがある。

【0014】 この液だれSを防止する液だれ防止装置7として、前記ニードル5側のディスペンサ本体3の部分3Nにおける外側には、隙間9を形成せしめたカバー11が被われている。このカバー11の一部には例えば複数のエア供給口13が設けられている。この各エア供給口13には配管15の一端が接続されていると共に、配管15の他端には図示省略のエア源が接続されている。

【0015】 前記ニードル5の突出した外周には、前記

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カバー11と一体化された中空円筒状のガイド部材17が設けられており、このガイド部材17とニードル5との間にはエア吹き出し口19が設けられている。

【0016】上記構成により、図示省略のエア源からのエアが配管15を経てエア供給口13よりディスペンサ本体3とカバー11との間に形成された隙間9に供給される。この隙間9に供給されたエアは、さらにガイド部材17とニードル5と間に形成されたエア吹き出し口19からエアが下方へ向けて吹き出される。

【0017】その結果、ニードル5の先端にある液だれSがエアにより吹き飛ばされて、非接触でニードル5の先端へ、液だれSが発生するのを防止することができる。また、ニードル5の先端にエアを吹き付けるために、前記隙間9に必要な最小限のエア量を供給することで集中的にエアの吹き付けを行えばよいものである。

【0018】この液だれSがなくなることにより、液体としての紫外線硬化樹脂の吐出量の定量化を行うことができると共に、液だれSによる液体の性質変動がなく品質安定を行うことができる。さらに、液だれSがなくなることにより、ニードル5移動時の液体の飛散がなくなり、ニードル5の拭取り作業がなくなり、製品にゴミなどが付着しなくなる。

【0019】ニードル5の突出した外周のカバー11と一体化されたガイド部材17を設けたことにより、このガイド部材17がニードル5をガイドするので、ニードル5の変形を防止することができる。

【0020】なお、この発明は、前述した実施例に限定されることなく、適宜な変更を行うことにより、その他の態様で実施し得るものである。本実施例ではエア供給口13を2個設けた例で説明したが、1個あるいは3個以上であっても構わない。また、前記隙間9は液だれS

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を防止する必要最小限のエア量を一時的にためる隙間であればよい。

【0021】

【発明の効果】以上のごとき実施例の説明より理解されるように、請求項1による発明によれば、ニードルの先端に生じる液だれの発生を防止することができる。この液だれがなくなることにより、液体の吐出量の定量化を行うことができると共に、液だれによる液体の性質変動がなく品質安定を行うことができる。さらに液だれがなくなることにより、ニードル移動時の液体の飛散がなくなる。しかも、ニードルの拭取り作業がなくなり、製品にゴミなどが付着しなくなる。

【0022】請求項2による発明によればガイド部材がニードルをガイドするので、ニードルの変形を防止することができる。

【図面の簡単な説明】

【図1】この発明を実施する一実施例のディスペンサの液だれ防止装置の正面図である。

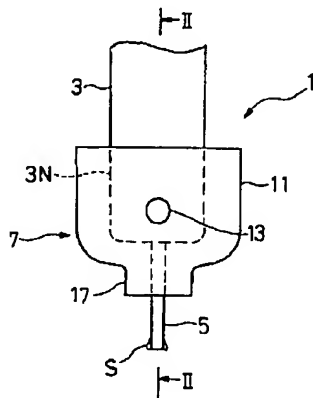
【図2】図1におけるI-I線に沿った断面図である。

【図3】従来のディスペンサの正面図である。

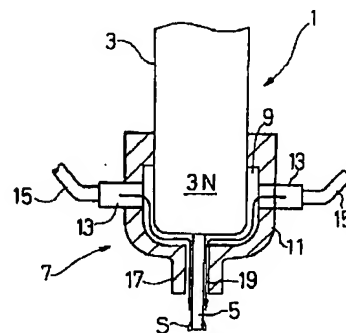
【符号の説明】

- 1 ディスペンサ
- 3 ディスペンサ本体
- 5 ニードル
- 7 液だれ防止装置
- 9 隙
- 11 カバー
- 13 エア供給口
- 17 ガイド部材
- 19 エア吹き出し口

【図1】



【図2】



(4)

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【図3】

